

EXHIBIT D

Excerpts from GE's *Baseline Assessment Final Report and Long-Term Monitoring Program Proposal for Groundwater Management Area 1* (July 2014)



**General Electric Company
Pittsfield, Massachusetts**

**Baseline Assessment Final Report
and Long-Term Monitoring
Program Proposal for
Groundwater Management Area 1**

Volume I of II

July 2014

As noted in Section 2, MDEP recently implemented revised Method 1 numerical standards for a number of constituents in groundwater and GE has also reviewed the historical groundwater data relative to the modified MCP Method 1 GW-2 standards. There were no exceedances of any of the constituents over the modified GW-2 standards in any GW-2 monitoring well during the baseline/interim monitoring programs at GMA 1. During the long-term monitoring program, GE will compare all future groundwater quality results to the new MCP groundwater standards.

6.7 Groundwater Results Relative to GW-3 Performance Standards

During the baseline/interim groundwater quality monitoring programs at GMA 1, groundwater samples were collected from 63 GMA 1 monitoring wells (or their replacements) designated as GW-3 monitoring locations, including nine upgradient perimeter wells, 20 general/source area sentinel wells, and 34 downgradient perimeter wells that served as compliance points for the GW-3 standards. However to be conservative, given the definition of GW-3 groundwater in the MCP, the data from all wells sampled in the GMA 1 baseline/interim monitoring programs have been compared with the MCP Method 1 (or 2) GW-3 standards.⁸ The groundwater analytical results for all constituents analyzed for at those wells are summarized in the tables in Appendix D. In addition, a summary of the results from these wells relative to the GW-3 Performance Standards (i.e., the MCP Method 1 [or Method 2] GW-3 standards) in effect at the time of the sampling is included in Table 8.

As shown in Table 8, there were only limited exceedances of the GW-3 standards during the baseline/interim monitoring programs. In fact, of a total of approximately 60,000 analytical results obtained during those programs, only 25 (0.04%) showed exceedances of the GW-3 standards. The limited exceedances were as follows:

- In East Street Area 1-North, the only exceedances of the GW-3 standards occurred in well ES1-08 – for lead in fall 2001 and cadmium in fall 2002. However, due to occasional presence of NAPL in this well, this well was replaced by wells downgradient of the NAPL area – initially by well ESA1S-33 (for one event) and then by well ESA1S-72R, both of which are located in East Street Area 2-South. Lead was not detected in well ESA1S-33 and was detected in only one of six sampling events at well ESA1S-72R and was at a level below the GW-3 standard. Cadmium was not detected in well ESA1S-33 and was detected in only two of six sampling events at well ESA1S-72R at levels more than an order of magnitude below the GW-3 standard.

⁸ In addition to the designated GW-3 or GW-2/GW-3 wells mentioned above, these include 15 GW-2-only wells and two supplemental wells.

- In East Street Area 1-South, the only exceedance of the GW-3 standards occurred in well ESA1S-33 for total cyanide in spring 2003. After that sampling event, that well was replaced by well ESA1S-72R (as noted above). In well ESA1S-72R, total cyanide was detected twice at concentrations an order of magnitude below the GW-3 standard, and PAC was subsequently not detected during four sampling events.
- In East Street Area 2-North, the only exceedance of the GW-3 standards occurred in well ES1-05 for mercury in fall 2002. However, mercury was not detected in this well during two prior sampling events and two subsequent sampling events, although mercury was detected in a split sample analyzed by a different laboratory during one of the subsequent sampling rounds at a trace concentration three orders of magnitude below the GW-3 standard.
- In East Street Area 2-South, exceedances of the GW-3 standards have been recorded at six locations: (i) at well 3-6C-EB-14, for chlorobenzene in fall 2002; (ii) at well E2SC-23, for lead in spring 2003 and PCBs in spring 2004; (iii) at wells ES2-02A/-02AR, for chlorobenzene on six occasions; (iv) at well ES2-17, for chlorobenzene on two occasions (this well was found to contain DNAPL and was replaced by well ESA2S-52 downgradient of the NAPL area following the spring 2002 event); (v) at well ESA2S-52, for chlorobenzene on three occasions and PCBs in fall 2011; and (vi) at well HR-G3-MW-1, for chlorobenzene on four occasions.⁹ As noted in Section 4.3 above, the single exceedance of the lead standard in well E2SC-23 in 2003 has been followed by four subsequent sampling events at that well in which lead was not detected (except in one duplicate sample, in which the lead concentration was below the GW-3 standard).

No exceedances of the GW-3 standards in effect at the time of sampling were found in any other wells or RAAs in GMA 1 during the baseline/interim monitoring programs.

The pre-CD data showed a few other constituents at levels above the current GW-3 standards. These included pyrene in well RF-3 (in the former 30s Complex) on one occasion in fall 1991, PCBs in well FW-16 (in Newell Street Area I) on one occasion in

⁹ It should be noted that chlorobenzene data also exist, from sampling conducted prior to entry of the CD, for deeper wells located in the portion of East Street Area 2-South containing the wells showing the above-noted exceedances of the GW-3 chlorobenzene standard. Specifically, such data were obtained from pre-CD sampling of wells ES2-02 and ES2-07, which were intermediate and deep wells in a cluster with well ES2-02A, and from well ES2-03, which is an intermediate-depth well located slightly upgradient of and between wells 3-6C-EB-14 and HR-G3-MW-1. The chlorobenzene data from these wells showed no exceedances of the current GW-3 standard; in fact, the chlorobenzene results ranged from one order of magnitude (at well ES2-02) to three orders of magnitude (at well ES2-07) below the standard. Thus, there is no need for additional sampling of the deeper groundwater in this area.

spring 1997, and silver in well NS-9 (in Newell Street Area II) on one occasion in fall 1995. However, these constituents were not detected or showed concentrations below the GW-3 standards in these wells during all baseline monitoring rounds, and thus do not warrant further assessment.

As noted in Section 2, the revised Method 1 GW-3 standards recently implemented by MDEP do not include any reduction in any of the GW-3 standards (although certain GW-3 standards were increased). Therefore, those modifications in standards do not affect the GW-3 evaluation provided above. During the long-term monitoring program, GE will compare all future groundwater quality results to the new MCP groundwater standards.

6.8 Overall Assessment of Groundwater Analytical Results

Graphs illustrating historical total VOC concentrations for all wells sampled during the baseline/interim monitoring programs at GMA 1 are presented in Appendix E. That appendix also provides graphs of historical PCB concentrations in filtered samples for each well where PCBs were detected during those programs. Finally, Appendix E contains graphs showing the historical concentrations of constituents that were detected above the applicable Performance Standards during the baseline/interim monitoring programs at the monitoring wells where such exceedances were observed. The following subsections provide an overall assessment of the baseline/interim monitoring data for each group of constituents, as well as a general trend assessment of the data, and discuss the implications of those data for the long-term monitoring program at GMA 1.

6.8.1 VOCs

As shown in the graphs in Appendix E, total VOC concentrations at the GW-2 monitoring locations were all well below the level (5 ppm) specified in the SOW as a notification level for GW-2 wells near a school or residence and as a trigger level at GW-2 wells for the proposal of interim response actions. VOCs generally have not been detected or have remained at low levels in the majority of the GW-2 wells that have been sampled.

Overall, a total of 27 VOCs were detected in one or more GMA 1 monitoring wells during at least one sampling event. However, no VOCs were detected at 22 wells, and only 17 VOCs were frequently detected (i.e., observed in more than 50% of all samples analyzed at a given location) in at least one monitoring well, including six that were frequently detected only in a single location. The most common VOCs were chlorobenzene (frequently detected at 15 wells), benzene (frequently detected at 12 wells), trichloroethene (frequently detected at seven wells), tetrachloroethene (frequently detected at six wells), and vinyl chloride (frequently detected at five wells). The highest historical concentrations of 17 of the detected VOCs were recorded prior to initiation of the baseline monitoring program.

Table 8

Summary of Groundwater Sampling Activities

Baseline Assessment Final Report and Long-Term Monitoring Program Proposal for Groundwater Management Area 1
 Plant Site 1 Groundwater Management Area
 General Electric Company - Pittsfield, Massachusetts

Well Number	Monitoring Well Usage	No. of Sampling Events	No. of Analyses	Discussion of Results Relative to Applicable Performance Standards	
				GW-2 Standards	GW-3 Standards
20s COMPLEX					
95-23 ³	GW-3 General/Source Area Sentinel	4	VOC (4 rounds) SVOC (4 rounds) PCB-unfiltered (4 rounds) / filtered (4 rounds) Pesticide/Herbicide (2 rounds) PCDD/PCDF (4 rounds) Metals-unfiltered (4 rounds) / filtered (4 rounds) Total CN-unfiltered (4 rounds) / filtered (2 rounds)	Not applicable.	No exceedances.
30s COMPLEX					
ES2-19	GW-2 Sentinel	8	VOC (4 rounds) Select SVOC (4 rounds) PCB-filtered (4 rounds)	No exceedances.	No exceedances.
GMA1-2	GW-2 Sentinel	1	VOC (1 round) Select SVOC (1 round)	No exceedances. Well was removed during building demolition.	No exceedances. Well was removed during building demolition.
GMA1-3	GW-2 Sentinel	8	VOC (4 rounds) Select SVOC (4 rounds) PCB-filtered (4 rounds)	No exceedances.	No exceedances.
GMA1-12	GW-2 Sentinel / GW-3 General/Source Area Sentinel	4	VOC (4 rounds) SVOC (4 rounds) PCB-unfiltered (4 rounds) / filtered (4 rounds) Pesticide/Herbicide (2 rounds) PCDD/PCDF (4 rounds) Metals-unfiltered (4 rounds) / filtered (4 rounds) Total CN-unfiltered (4 rounds) / filtered (2 rounds)	No exceedances.	No exceedances.
GMA1-29	GW-2 Sentinel / GW-3 General/Source Area Sentinel	4	VOC (4 rounds) Select SVOC (4 rounds) PCB-filtered (4 rounds)	No exceedances.	No exceedances.
GMA1-31	Supplemental Sampling Location	1	VOC (1 round) Select SVOC (1 round) PCB-filtered (1 round)	No exceedances.	No exceedances.

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				GW-2 Standards	GW-3 Standards
30s COMPLEX (Continued)					
RF-02	GW-3 Perimeter (Downgradient)	14	VOC (9 rounds) SVOC (6 rounds) PCB-unfiltered (6 rounds) / filtered (13 rounds) Pesticide/Herbicide (2 rounds) PCDD/PCDF (5 rounds) Metals-unfiltered (6 rounds) / filtered (5 rounds) Total CN-unfiltered (6 rounds) / filtered (2 rounds)	Not applicable.	No exceedances.
RF-03/RF-03S	GW-2 Sentinel / GW-3 Perimeter (Downgradient)	9	VOC (9 rounds) SVOC (6 rounds) Select SVOC (3 rounds) PCB-unfiltered (6 rounds) / filtered (8 rounds) Pesticide/Herbicide (2 rounds) PCDD/PCDF (5 rounds) Metals-unfiltered (6 rounds) / filtered (5 rounds) Total CN-unfiltered (6 rounds) / filtered (2 rounds)	No exceedances.	No exceedances during baseline/interim programs. Historical pyrene concentration above current GW-3 standard level observed on one occasion in 1991, but pyrene not detected during baseline/interim programs.
RF-03D	GW-3 General/ Source Area Sentinel	7	VOC (7 rounds) SVOC (4 rounds) PCB-unfiltered (4 rounds) / filtered (7 rounds) Pesticide/Herbicide (2 rounds) PCDD/PCDF (4 rounds) Metals-unfiltered (4 rounds) / filtered (4 rounds) Total CN-unfiltered (4 rounds) / filtered (2 rounds)	Not applicable.	No exceedances.
RF-16/RF-16R	GW-3 Perimeter (Downgradient)	9	VOC (6 rounds) SVOC (6 rounds) PCB-unfiltered (6 rounds) / filtered (5 rounds) Pesticide/Herbicide (2 rounds) PCDD/PCDF (5 rounds) Metals-unfiltered (6 rounds) / filtered (7 rounds) Total CN-unfiltered (6 rounds) / filtered (4 rounds) PA CN-filtered (2 rounds)	Not applicable.	No exceedances.

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				GW-2 Standards	GW-3 Standards
40s COMPLEX					
RF-04	GW-3 Perimeter (Upgradient)	5	VOC (5 rounds) SVOC (5 rounds) PCB-unfiltered (5 rounds) / filtered (4 rounds) Pesticide/Herbicide (2 rounds) PCDD/PCDF (5 rounds) Metals-unfiltered (5 rounds) / filtered (4 rounds) Total CN-unfiltered (5 rounds) / filtered (2 rounds)	Not applicable.	No exceedances.
EAST STREET AREA 1-NORTH					
ES1-08/ ES1-08R	GW-2 Sentinel / GW-3 General/Source Area Sentinel	3	VOC (3 rounds) Select SVOC (3 rounds) PCB-unfiltered (3 rounds) / filtered (3 rounds) Pesticide/Herbicide (2 rounds) PCDD/PCDF (3 rounds) Metals-unfiltered (3 rounds) / filtered (3 rounds) Total CN-unfiltered (3 rounds) / filtered (1 round)	No exceedances.	Exceedances for lead and cadmium on one occasion each. However, due to presence of NAPL, well was replaced for sampling purposes by well ESA1S-33 and then ESA1S-72R. Those replacement wells showed no exceedances of lead and cadmium standards. No other exceedances.
ES1-14	GW-2 Sentinel/GW-3 General/Source Area Sentinel	4	VOC (4 rounds) SVOC (4 rounds) PCB-unfiltered (4 rounds) / filtered (4 rounds) Pesticide/Herbicide (2 rounds) PCDD/PCDF (4 rounds) Metals-unfiltered (4 rounds) / filtered (4 rounds) Total CN-unfiltered (4 rounds) / filtered (2 rounds)	Replaced by well GMA1-18 for sampling purposes. No exceedances.	No exceedances. Replaced by well GMA1-18 for sampling purposes.
ESA1N-52	GW-2 Sentinel / GW-3 General/Source Area Sentinel	8	VOC (4 rounds) SVOC (4 rounds) PCB-unfiltered (4 rounds) / filtered (8 rounds) Pesticide/Herbicide (2 rounds) PCDD/PCDF (4 rounds) Metals-unfiltered (4 rounds) / filtered (4 rounds) Total CN-unfiltered (4 rounds) / filtered (2 rounds)	No exceedances. Well has been decommissioned.	No exceedances. Well has been decommissioned.

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				GW-2 Standards	GW-3 Standards
EAST STREET AREA 2-NORTH					
17A	GW-2 Sentinel	9	VOC (5 rounds) SVOC (1 round) / Select SVOC (4 rounds) PCB-unfiltered (1 round) / filtered (4 rounds) Pesticide/Herbicide (1 round) Metals-unfiltered (1 round) Total CN-unfiltered (1 round)	No exceedances.	No exceedances.
95-20	GW-2 Sentinel	8	VOC (4 rounds) Select SVOC (4 rounds) PCB-filtered (4 rounds)	No exceedances.	No exceedances.
A7 / A7-R / A7-RR	GW-2 Sentinel	13	VOC (5 rounds) SVOC (1 round) / Select SVOC (4 rounds) PCB-unfiltered (1 round) / filtered (8 rounds) Pesticide/Herbicide (1 round) Metals-unfiltered (1 round) Total CN-unfiltered (1 round)	No exceedances during baseline/interim programs. Historical hexachlorobenzene concentration above current GW-2 standard level observed on one occasion in 1990. But not a constituent of interest in this area and no exceedances for this constituent in any other GMA 1 well.	No exceedances.
ES1-05	GW-3 Perimeter (Downgradient)	10	VOC (4 rounds) SVOC (4 rounds) PCB-unfiltered (4 rounds) / filtered (9 rounds) Pesticide/Herbicide (2 rounds) PCDD/PCDF (4 rounds) Metals-unfiltered (4 rounds) / filtered (4 rounds) Mercury-unfiltered (5 rounds) / filtered (5 rounds)* Total CN-unfiltered (4 rounds) / filtered (2 rounds)	Not applicable.	Exceedance for mercury observed in fall 2002. But mercury not detected in this well during two prior and two subsequent events (except in one split sample at concentration far below standard). No other exceedances.
ES1-10	GW-2 Sentinel	8	VOC (4 rounds) Select SVOC (4 rounds) PCB-filtered (4 rounds)	No exceedances.	No exceedances.

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				GW-2 Standards	GW-3 Standards
EAST STREET AREA 2-NORTH (continued)					
ES1-18	GW-2 Sentinel	8	VOC (4 rounds) Select SVOC (4 rounds) PCB-filtered (4 rounds)	No exceedances.	No exceedances.
ES1-20	GW-3 Perimeter (Upgradient)	5	VOC (5 rounds) SVOC (5 rounds) PCB-unfiltered (4 rounds) / filtered (4 rounds) Pesticide/Herbicide (3 rounds) PCDD/PCDF (4 rounds) Metals-unfiltered (5 rounds) / filtered (5 rounds) Total CN-unfiltered (5 rounds) / filtered (2 rounds)	Not applicable.	No exceedances.
ES1-27R	GW-3 General/ Source Area Sentinel	9	VOC (4 rounds) SVOC (4 rounds) PCB-unfiltered (4 rounds) / filtered (9 rounds) Pesticide/Herbicide (2 rounds) PCDD/PCDF (4 rounds) Metals-unfiltered (4 rounds) / filtered (4 rounds) Total CN-unfiltered (4 rounds) / filtered (2 rounds)	Not applicable.	No exceedances.
F-1	GW-2 Sentinel	11	VOC (5 rounds) SVOC (1 round) / Select SVOC (4 rounds) PCB-unfiltered (1 round) / filtered (6 rounds) Pesticide/Herbicide (1 round) Metals-unfiltered (1 round) Total CN-unfiltered (1 round)	No exceedances.	No exceedances.
GMA1-4	GW-2 Sentinel	7	VOC (4 rounds) Select SVOC (4 rounds) PCB-filtered (3 rounds)	No exceedances.	No exceedances.
GMA1-11	GW-3 General/ Source Area Sentinel	4	VOC (4 rounds) SVOC (4 rounds) PCB-unfiltered (4 rounds) / filtered (4 rounds) Pesticide/Herbicide (2 rounds) PCDD/PCDF (4 rounds) Metals-unfiltered (4 rounds) / filtered (4 rounds) Total CN-unfiltered (4 rounds) / filtered (2 rounds)	Not applicable.	No exceedances.